

Remarks

Claims 19 and 33 have been amended. Claims 1 – 33 are pending.

The amendment to claim 19 is editorial in nature.

It is submitted that support for the amendment to claim 33 can be found, for example, in the specification at page 5, lines 15 - 17, and original claim 33.

§ 112 Rejections

Claim 33 stands rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Patent Office asserts that it is not clear from the claim language "radiation curable clear coat" whether Applicants intend to claim a curable composition for obtaining a clear coat or a cured clear coat obtained by radiation curing a curable composition.

It is submitted that the amendment to claim 33, overcomes the rejection. Withdrawal of the rejection is requested.

§ 103 Rejections

Claims 1, 12, 13, 18, 19, 21, 23, and 26-29 stand rejected under 35 USC 103(a) as being unpatentable over Held (5,852,075).

The Patent Office asserts that Held discloses a surfactant system for ink jet inks containing an aqueous carrier and a colorant, and that the surfactant system comprises a siloxane surfactant and a fluorinated surfactant. The Patent Office argues that it would have been obvious to one skilled in the art to select surfactant No. 4 from the fluorinated surfactants disclosed by Held, because Held uses a fluoroalcohol substituted monoether with polyethylene glycol. The Patent Office further argues that it would have been obvious to one skilled in the art to substitute a fluorinated surfactant containing 4 carbon atoms instead of the surfactant containing 6 carbon atoms in the perfluoralkyl group taught by Held, with the expectation of obtaining similar surfactant properties, in the absence of evidence to the contrary. With respect to claims 23 and 26 - 28, the Patent Office argues it would have been obvious to one

skilled in the art to employ the ink compositions disclosed by Held in a method of ink jet printing comprising ejecting the ink compositions from an ink jet printhead onto a substrate because Held teaches that the disclosed compositions are suitable inks for ink jet printers.

Without agreeing to the Patent Office's characterization of Held, or admitting that the rejection is even proper, it is submitted that Held does not teach or properly suggest an inkjet ink composition comprising a fluorinated surfactant having a perfluoroalkyl group having 4 carbon atoms in an inkjet ink according to claim 1. Held indicates that the fluorinated alkyl group of the fluorinated surfactant should have from 6 to 22 carbon atoms (e.g., see Held at column 6, lines 43 - 49). Absent a specific teaching or proper suggestion in Held that one could successfully use a fluorinated surfactant having a perfluoroalkyl group with 4 carbon atoms, or specific evidence that one of ordinary skill in the art would be motivated to modify the teaching of Held as applied in the rejection, the only motivation to utilize such a fluorinated surfactant according to the claimed invention must be impermissible hindsight reasoning based on Applicants' own disclosure.

It is submitted that, for at least these reasons, the Patent Office has not established a *prima facie* case of obviousness, and claim 1 is therefore patentable over Held. Claims 12, 13, 18, 19, 21, 23, and 26 - 29 each add additional features to patentable claim 1, and are therefore likewise patentable.

In summary, the rejection of claims 1, 12, 13, 18, 19, 21, 23, and 26 - 29 under 35 USC 103(a) as being unpatentable over Held has been overcome and should be withdrawn.

Claims 1, 12, 13, 18, 19, 21, 22, 23, and 26-29 stand rejected under 35 USC 103(a) as being unpatentable over EP 0 974 626 A1.

The Patent Office asserts that EP '626 discloses aqueous pigmented inks comprising an aqueous vehicle, an insoluble colorant, a polymeric dispersant, and a silicon or fluorinated surfactant for ink jet printing on vinyls. The Patent Office argues that it would have been obvious to one skilled in the art to select surfactant No. 4 from the fluorinated surfactants disclosed by EP '626 because EP '626 teaches that a fluoroalcohol substituted monoether with polyethylene glycol or telomer B monoether with polyethylene glycol are preferred. The

Patent Office further argues that it would have been obvious to one skilled in the art to substitute a fluorinated surfactant containing 4 carbon atoms instead of the surfactant containing 6 carbon atoms in the perfluoroalkyl group taught by EP '626, with the expectation of obtaining similar surfactant properties, in the absence of evidence to the contrary.

Without agreeing to the Patent Office's characterization of EP '626, or admitting that the rejection is even proper, it is submitted that EP '626 does not teach or properly suggest an inkjet ink composition comprising a fluorinated surfactant having a perfluoroalkyl group having 4 carbon atoms in an inkjet ink according to claim 1. EP '626 clearly indicates that the fluorinated surfactant should have from 6 to 22 carbon atoms (e.g., see EP '626 at page 6, lines 5 - 12). Absent a specific teaching or proper suggestion in EP '626 that one could successfully use a fluorinated surfactant containing a perfluoroalkyl group with 4 carbon atoms, or specific evidence that one of ordinary skill in the art would be motivated to modify the teaching of EP '626 as applied in the rejection, the only motivation to utilize such a fluorinated surfactant according to the claimed invention must be impermissible hindsight reasoning based on Applicants' own disclosure.

It is submitted that, for at least these reasons, the Patent Office has not established a *prima facie* case of obviousness, and claim 1 is therefore patentable over EP '626. Claims 12, 13, 18, 19, 21, 23, and 26 - 29 each add additional features to patentable claim 1, and are therefore likewise patentable.

In summary, the rejection of claims 1, 12, 13, 18, 19, 21, 23, and 26 - 29 under 35 USC 103(a) as being unpatentable over EP '626 has been overcome and should be withdrawn.

Claims 1, 14-17, 19, 21-29, and 33 are rejected under 35 USC 103(a) as being unpatentable over Caiger et al. (6,114,406) in view of Held or EP '626.

The Patent Office asserts that Caiger et al. disclose radiation curable ink compositions comprising acrylate monomers and oligomers, a photoinitiator and a fluorosurfactant. The Patent Office further asserts that Caiger et al. teach that suitable surfactants are preferably non-ionic and use fluoro surfactants in the examples (column 3, lines 52-55). The Patent Office further asserts Held and EP '626 each disclose fluorinated surfactants analogous to the

third formula set forth in claim 1. The Patent Office argues that it would have been obvious to one skilled in the art to employ the fluorinated surfactants taught by Held or by EP '626 as the fluoro surfactant in the ink compositions disclosed by Caiger et al. because EP '626 teaches that a fluoroalcohol substituted monoether with polyethylene glycol or telomer B monoether with polyethylene glycol are preferred. The Patent Office further argues that it would have been obvious to one skilled in the art to substitute a fluorinated surfactant containing 4 carbon atoms instead of the surfactant containing 6 carbon atoms in the perfluoroalkyl group taught by EP '626, with the expectation of obtaining similar surfactant properties, in the absence of evidence to the contrary.

It is submitted, for at least the reasons given above, that neither Held nor EP '626 teach or properly suggest an inkjet ink composition comprising a fluorinated surfactant having a perfluoroalkyl group having 4 carbon atoms in an inkjet ink according to claim 1. Caiger et al. do not overcome the deficiency of Held and EP '626 by providing surfactant compositions having fluoroalkyl groups with only 4 carbon atoms. Therefore, the combination of Caiger et al. in view of Held or EP '626 fails to achieve the invention of either claim 1 or claim 33, which are therefore patentable.

It is submitted that, for at least these reasons, the Patent Office has not established a *prima facie* case of obviousness, and claims 1 and 33 are therefore patentable over Caiger et al. in view of Held or EP '626. Claims 14 - 17, 19, and 21 - 29 each add additional features to patentable claim 1, and are therefore likewise patentable.

In summary, the rejection of claims 1, 14 - 17, 19, 21 - 29, and 33 under 35 USC 103(a) as being unpatentable over Caiger et al. in view of Held or EP '626 has been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Allowance of claims 1 - 33, as amended, at an early date is solicited.

Respectfully submitted,

12-18-02
Date

By: Bradford B. Wright
Bradford B. Wright, Reg. No.: 34,459
Telephone No.: 651-736-4172

Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, MN 55133-3427
Facsimile No.: 651-736-3833

Version with markings to show amendments made:

19. (Amended) The ink composition of Claim 18, further comprising at least one of a humectant and a colorant stabilizer.

33. (Amended) An ink jet printable radiation curable composition [clear coat] comprising:

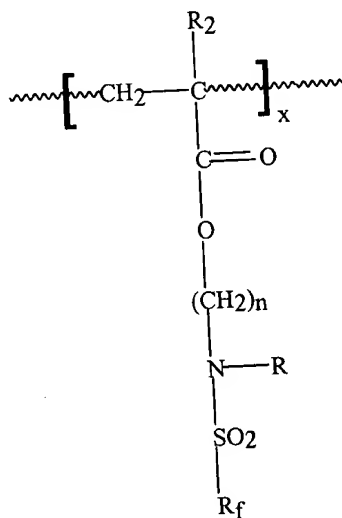
a vehicle comprising a polymerizable material;

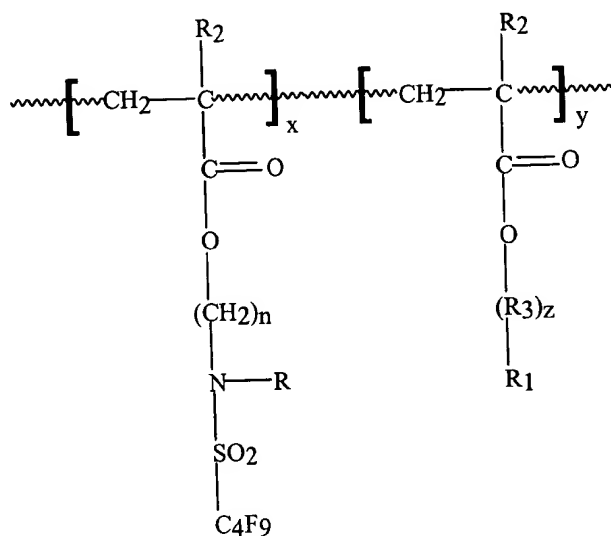
a photoinitiator; and

a fluorochemical surfactant;

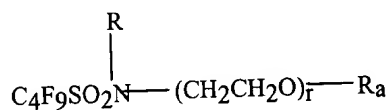
wherein no colorant is present; and

further wherein the fluorochemical surfactant comprises one or more surfactants having one or more chemical structures selected from:





and



wherein

~~~~~ represents a bond in a polymer chain;

R<sub>f</sub> is -C<sub>4</sub>F<sub>9</sub> or -C<sub>3</sub>F<sub>7</sub>;

R, R<sub>1</sub>, R<sub>2</sub> and R<sub>a</sub> are each independently hydrogen or alkyl groups

having 1 to 4 carbon atoms;

R<sub>3</sub> comprises one or more straight or branched polyalkylene-oxy groups having 2 to 6 carbon atoms in each group;

n is an integer from 2 to 10;

x, y and z are integers of at least 1; and

r is an integer of 2 to 20.